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Avalanche Notes

INTERMOUNTAIN RESEARCH
STATION

MAY 13 1987

U.S. Forest Service
Westwide Avalanche Network

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APRIL 1987

April snowfall was light throughout the mountain West, extending a dry pattern that had prevailed all winter. Snowfall in the Sierra of California was exceptionally light: Alpine Meadows recorded only 15% of normal. Elsewhere along the West Coast, Crystal Mtn., WA got 47%; Stevens Pass, WA, 56%; Mt. Rainier, WA, 60%; and Alyeska, AK, 56%. Inland, Snowbird, UT received 56%; Alta, UT, 38%; Gothic, CO, 52%; Winter Park, CO, 57%; Berthoud Pass, CO, 64%; and Copper Mtn., CO, 65%.

Temperatures soared far above normal in the second half of the month. The mountain snowpack was already thinner than normal in most locales, so that the high temperatures led to rapid melt and triggered many wet loose avalanches, but did not lead to any concentrated cycles of large wet slabs. Red Mtn. Pass, CO, however, experienced an active month of wet loose and wet slab releases.

Avalanche accidents were mostly minor in April: in five separate reported incidents, six people were caught. In the most serious incident, the Colorado Avalanche Information Center observer at Gothic and a friend were injured when struck by a natural wet slab on the 18th.

WINTER SUMMARY

The winter of 1986-87 was one of light snows, thin snowpacks, and big depth hoar. There were few memorable storms, and fewer big avalanche cycles. Table 1 compares avalanche statistics for the past 17 winters. The winter of 85-86 was below average in all categories but one -- people killed. Widespread depth-hoar formation made the backcountry a scary proposition in much of the Rocky Mountains, and sixteen people died by avalanche: 11 in Colorado, 2 in Utah, 2 in Washington (in a late-summer ice avalanche), and 1 in Montana. The avalanche total was the lowest in 10 years.

Table 2 presents snowfall totals for all regularly reporting Westwide sites. It was a dry winter on the whole, and we can blame it on El Nino. Alyeska, AK had a big-snow year, but in the rest of the West, only Monarch, CO and Taos, NM recorded above-normal snowfalls. The driest area was in the Intermountain region of southern Idaho, Montana, and western Wyoming.

Table 3 lists avalanche totals for all sites reporting this winter.

LOOKING AHEAD

Item 1: Avalanche Notes will return in November, as will the Westwide Network for weather and avalanche data gathering. So keep your powder dry and pencils sharp.

Item 2: Don't forget that the 10th National Avalanche School will be held in Denver on November 1-5, 1987. For further information, write the National Avalanche Foundation, 133 So. Van Gordon St., Lakewood, CO 80228; or phone (303) 232-7580.

Item 3: The American Association of Avalanche Professionals will hold its first meeting at the National Avalanche School in Denver in November. If you would like more information on organization goals, bylaws, and membership, write to AAAF, c/o Rod Newcomb, Membership Committee, Box 308A, Wilson WY 83014.

Item last: May you all enjoy a sunny and safe summer, and return older but wiser in November.

Table 1: Annual avalanche summaries for the U.S.

WINTER	AVALANCHES	PEOPLE				VEHICLES		avalanche damaged			ESTIMATED PROPERTY DAMAGE
		C	B	I	K	BUR	DAM	BLDGs	LIFTS	MISC	
1986-87	5,030	109	43	13	16	5	0	3	0	1	\$ 175,000
1985-86	7,437	102	49	11	15	18	7	6	1	3	150,000
1984-85	6,903	115	42	18	14	8	0	4	0	2	80,000
1983-84	7,161	122	42	20	14	27	7	4	0	6	140,000
1982-83	11,822	174	68	20	14	32	11	5	4	3	80,000
1981-82	10,102	212	78	16	19	77	25	10	8	8	1,700,000
1980-81	5,695	131	58	7	23	5	1	0	2	0	10,000
1979-80	10,669	136	44	9	6	34	16	7	1	19	650,000
1978-79	9,420	159	62	16	11	54	24	5	1	4	1,250,000
1977-78	11,151	155	71	16	17	19	5	5	3	2	300,000
1976-77	3,764	98	35	13	10	3	0	2	0	0	500
1975-76	7,905	177	81	15	17	13	6	1	1	1	100,000
1974-75	10,387	195	79	9	22	30	5	4	1	2	150,000
1973-74	11,782	159	92	13	13	54	16	11	2	7	300,000
1972-73	9,965	92	35	3	5	11	1	4	2	2	200,000
1971-72	6,975	168	63	17	5	21	4	11	2	12	300,000
1970-71	4,066	58	46	10	12	19	3	13	2	8	500,000
AVERAGE	8,249	139	57	13	13	26	8	6	2	5	\$ 358,000

Table 2: Snowfall totals for the winter of 1986-87 (with percents of normal for sites with 10 or more years of record)

<u>State_and_Site</u>	<u>Dec-Mar (inches)</u>	<u>% of Normal</u>	<u>Nov-Apr (inches)</u>	<u>% of Normal</u>
<u>Alaska</u>				
Alyeska	410	115%	508	
Eaglecrest	137			
<u>California</u>				
Alpine Meadows	200	77%	212	70%
Squaw Valley	118		126	
<u>Colorado</u>				
Arapahoe Basin	137		201	
Aspen Highlands	134			
Aspen Mountain	157	95%		
Bear Lake	107		185	
Beaver Creek	171			
Berthoud Pass	160	80%	236	79%
Breckenridge	138	64%		
Copper Mountain	122	68%	179	70%
Crested Butte	102	58%		
Gothic	157	61%		
Keystone	129			
Mary Jane	158			
Monarch	211	119%		
Purgatory	218			
Red Mountain Pass	206		310	
Sunlight	129	65%		
Telluride	184			
Vail	166	64%		
Winter Park	107	72%	159	71%
Wolf Creek	239	79%		
<u>Idaho</u>				
Schweitzer Basin	195			
Sun Valley	94	53%		
<u>Montana</u>				
Bridger Bowl	132	54%		
<u>New Mexico</u>				
Taos	192	113%		
<u>Oregon</u>				
Mt. Hood Meadows	264	70%		
<u>Utah</u>				
Snowbird	261	72%	337	69%
<u>Washington</u>				
Crystal Mountain 1	196	67%		
Crystal Mountain 2	219	61%		
Mt. Rainier-Paradise	371	74%	539	77%
Stevens Pass	263	75%	360	82%
Stevens Pass U.S. 2	249			
<u>Wyoming</u>				
Jackson Hole	166	53%		
Teton Pass	139			

Table 3: Avalanche totals for the winter of 1986-87

<u>Ski_Areas</u>	<u>No.</u>	<u>Highways, Mines, Nat. Parks and Backcountry Areas</u>	<u>No.</u>
1. Alpine Meadows, CA	451	1. Red Mountain Pass, CO	367
2. Alyeska, AK	408	2. Gothic, CO	177
3. Squaw Valley, CA	282	3. Wasatch Range, UT	92
4. Aspen Highlands, CO	280	4. Berthoud Pass Res. Area, CO	86
4. Bridger Bowl, MT	280	5. Stevens Pass U.S. 2, WA	79
6. Snowbird, UT	247	6. Snoqualmie Pass I-90, WA	44
7. Crystal Mountain, WA	200	7. Loveland Pass, CO	37
8. Mt. Hood Meadows, OR	174	8. Berthoud Pass U.S. 40, CO	16
9. Arapahoe Basin, CO	171	8. Urad-Henderson Mine, CO	16
10. Alta, UT	158	10. Silverton, CO	14
11. Kirkwood Meadows, CA	151	11. Teton Pass, WY	9
12. Mammoth/June Mtn, CA	141	12. Colorado Highway 110	5
13. Big Sky, MT	121	13. Lizard Head Pass, CO	2
14. Aspen Snowmass, CO	107	13. Vail Pass, CO	2
15. Wolf Creek, CO	97	15. Wolf Creek Pass, CO	1
16. Jackson Hole, WY	95		
17. Loveland Basin, CO	77		
18. Crested Butte, CO	70		
19. Sugar Bowl, CA	66		
20. Telluride, CO	63		
21. Taos, NM	61		
22. Copper Mtn., CO	57		
23. Breckenridge, CO	56		
24. Monarch, CO	45		
25. Mt. Rose/Slide Mtn, NV	36		
26. Schweitzer Basin, ID	34		
27. Heavenly Valley, CA	31		
28. Big Mountain, MT	27		
29. Parkwest, UT	21		
30. Sunlight, CO	20		
31. Vail, CO	17		
32. Mary Jane, CO	12		
33. Aspen Mtn., CO	10		
34. Furgatory, CO	7		
35. Steamboat, CO	4		
36. Beaver Creek, CO	2		
37. Solitude, UT	1		

U.S. FOREST SERVICE
ALpine SNOW AND AVALANCHE RESEARCH PROJECT
RM STATION FORT COLLINS, COLO.

APRIL 1987
AVALANCHE SUMMARY

AREA	TOTAL	TOTAL A V A L S	DAYS OF F	NUMBER OF DAYS WITH	TYPE OF AVALANCHE	FRACTURE LINE HEIGHTS IN FEET	VERTICAL DESCENT			AVALS ACROSS MAJOR ACCESS ROADS NO.			
							A V A L S	F	A U I R S T	N A U R A R L	S L W E T	GE GE GE GE 200 500 1000 ---NUMBER---	MAX FEET
CENTRAL AND SOUTHERN ROCKY MOUNTAINS													
ARAPAHOE BASIN, COLO	15	171	12	29	6 29	4	0	3	12	0	6 0	0	8 1
ASPEN HIGHLANDS, COL	15	280	6	19	4 14+	6	0	7	8	0	0 14	0	12 5
ASPEN MOUNTAIN, COLO	4	10	16	18	2 18	3	1	3	1	0	0 4	0	400 0
BERTHOLD PASS, COLO	18	86	2	28	2 24+	13	1	3	15	0	5 4	9	17 3
BERTHOLD PASS U.S. 40	1	16	27	27	1 27	1	0	0	0	1	0 0	0	0 0
COPPER MT., COLO	4	57	7	18	2 17	3	0	4	0	2	1 0	0	4 2
CRESTED BUTTE, COLO	6	70	12	17	2 17+	4	0	3	3	0	2 0	4	2 2
RED MTN PASS U.S. 550	76	367	6	29	10 6	16	1	0	76	0	5 13	58	73 41
URAD MINE, COLO	1	16	14	14	1 14	1	0	0	1	0	0 1	0	1 1
VAIL, COLO	5	17	10	19	2 17	4	0	5	0	0	3 0	2	0 0
WOLF CREEK, COLO	1	97	5	5	1 5	1	0	0	1	0	0 0	0	0 0
INTERMOUNTAIN													
ALTA, UTAH	3	158	11	20	2 20	2	0	3	0	1	0	2	0 0
BRIDGER BOWL, MONT	7	280	7	7	7 7	1	0	7	0	0	5 0	0	7 6
JACKSON HOLE, WYO	2	95	6	9	1 9+	2	0	1	0	1	0 0	0	2 2
SNOWBIRD, UTAH	11	247	3	29	4 27	5	0	10	1	0	3 7	1	11 5
WEST COAST													
ALPINE MEADOWS, CAL	13	451	3	14	7 14	2	0	13	0	6	0	7	0 0
ALYESKA, ALASKA	59	408	4	23	27 23	9	0	35	24	0	45 14	18	0 0
CRYSTAL MTN., WASH	26	200	2	19	9 18+	8	0	23	3	6	0	8 3	24 0
MT. HOOD MEADOWS	7	174	11	18	3 18+	3	0	7	0	0	1 0	0	4 2
SQUAW VALLEY, CALIF	1	282	4	4	1 4	1	0	1	0	0	0 0	0	1 0
STEVENS PASS U.S. 2	10	79	8	23	4 8	3	0	10	0	7	0	3	0 0

---=DATA INCOMPLETE OR MISSING

GE=GREATER THAN OR EQUAL TO

+ ALSO OCCURRED ON OTHER DATES

